

IN THE CLAIMS:

Please cancel claim 1 without prejudice and subject to Applicant's right to pursue the subject matter of the claim in related applications.

Please amend claim 2 as follows:

*Sub B3* 2. (Amended) A method for securing at least one ligament to a bone within a bone tunnel, the bone tunnel having a transverse cross-sectional area greater than a transverse cross-sectional area of the ligament, said method comprising:

*A2* inserting the at least one ligament into the bone tunnel;

attaching the at least one ligament to the bone;  
and

inserting a ligament shim into the bone tunnel so as to occupy a portion of the transverse cross-sectional area of said bone tunnel.

Please add new claims 3-13 as follows:

Sub B3 7 3. (New Claim) A ligament shim for insertion into a bone tunnel, the bone tunnel forming a mouth and having at least one ligament extending through the mouth, the at least one ligament and mouth forming an interstitial space, said ligament shim comprising:

a body having a first end and a second end, a longitudinal axis from said first end to said second end, and at least two walls extending substantially parallel to said longitudinal axis;

A3 a portion of said body defining a cross-sectional area in a plane substantially perpendicular to said longitudinal axis, said cross-sectional area of said portion of said body being slightly oversized relative to a portion of the interstitial space between the wall of the bone tunnel and the at least one ligament in a plane substantially perpendicular to said longitudinal axis, whereby when said shim is placed in said interstitial space between the mouth of the bone tunnel and the at least one ligament, said shim will urge the

at least one ligament against a wall of the bone tunnel; and

a rounded bearing surface being formed at said first end of said body, said first end being positionable at a proximal end of the bone tunnel, adjacent the mouth of the bone tunnel and the at least one ligament, so as to provide a gentle bearing surface for the at least one ligament at the mouth of the bone tunnel.

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4. (New Claim) A ligament shim for insertion into a bone tunnel, the bone tunnel forming a mouth and having at least one ligament extending through the mouth, the at least one ligament and mouth of the bone tunnel forming an interstitial space, said ligament shim comprising:

a body having a first end and a second end, a longitudinal axis from said first end to said second end, and at least two walls extending substantially parallel to said longitudinal axis;

a portion of said body defining a cross-sectional area in a plane substantially perpendicular to said

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longitudinal axis, said cross-sectional area of said portion of said body being slightly oversized relative to a portion of the interstitial space between the wall of the bone tunnel and the at least one ligament in a plane substantially perpendicular to said longitudinal axis, whereby when said shim is placed in said interstitial space between the mouth of the bone tunnel and the at least one ligament, said shim will urge the at least one ligament against a wall of the bone tunnel; and

said body forming a tow hole therethrough between said first end and said second end thereof, said tow hole extending substantially orthogonal to said longitudinal axis, wherein said shim is positionable within the bone tunnel by pulling a suture inserted through said tow hole.

5. (New Claim) A ligament shim according to claim 4 wherein said shim is suspended within the bone tunnel by anchoring said suture inserted through said tow hole at a location distal to said shim.

6. (New Claim) A ligament shim for insertion into a bone tunnel, the bone tunnel forming a mouth and having at least one ligament extending through the mouth, the at least one ligament and mouth of the bone tunnel forming an interstitial space, said ligament shim comprising:

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a body having a first end and a second end, a longitudinal axis from said first end to said second end, and at least two walls extending substantially parallel to said longitudinal axis;

a portion of said body defining a cross-sectional area in a plane substantially perpendicular to said longitudinal axis, said cross-sectional area of said portion of said body being slightly oversized relative to a portion of the interstitial space between the wall of the bone tunnel and the at least one ligament in a plane substantially perpendicular to said longitudinal

axis, whereby when said shim is placed in said interstitial space between the mouth and the at least one ligament, said shim will urge the at least one ligament against a wall of the bone tunnel; and

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a first pair of opposing arcuate surfaces being formed by said at least two walls, said first pair of opposing arcuate surfaces curving inwardly toward one another and being formed substantially along said longitudinal axis from said first end to said second end, whereby when said shim is positioned between a first portion of the at least one ligament and a second portion of the at least one ligament in the bone tunnel, said shim will conform to each of the first portion and the second portion, and said shim will urge each of the first portion and the second portion against a wall of the bone tunnel.

7. (New Claim) A ligament shim according to claim 6 further comprising a second pair of opposing arcuate surfaces being formed by said at least two walls, said second pair of opposing arcuate surfaces curving outwardly away from one another and being

formed substantially along said longitudinal axis from said first end to said second end, whereby when said shim is positioned between the first portion of the at least one ligament and the second portion of the at least one ligament in the bone tunnel, said second pair of opposing arcuate surfaces conforms to the wall of the bone tunnel.

8. (New Claim) A ligament shim for insertion into a bone tunnel, the bone tunnel forming a mouth and having at least one ligament extending through the mouth, the at least one ligament and mouth of the bone tunnel forming an interstitial space, said ligament shim comprising:

a body having a first end and a second end, a longitudinal axis from said first end to said second end, and at least two walls extending substantially parallel to said longitudinal axis;

a portion of said body from said first end and said second end defining a cross-sectional area in a plane substantially perpendicular to said longitudinal axis, said cross-sectional area of said portion of said

body being slightly oversized relative to a portion of the interstitial space between the wall of the bone tunnel and the at least one ligament in a plane substantially perpendicular to said longitudinal axis, whereby when said shim is placed in said interstitial space between the mouth of the bone tunnel and the at least one ligament, said shim will urge the at least one ligament against a wall of the bone tunnel; and

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first and second pairs of opposing arcuate surfaces being formed by said at least two walls, each of said first and second pairs of opposing arcuate surfaces curving inwardly toward one another, respectively, and said each of said first and second pairs of opposing arcuate surfaces being formed substantially along said longitudinal axis from said first end to said second end, whereby when said shim is placed between first, second, third, and fourth portions of the at least one ligament in the bone tunnel, said shim will conform to each of the first, second, third, and fourth portions, and the shim will urge each of the first, second, third, and fourth portions against a wall of the bone tunnel.



9. (New Claim) A method for securing at least one ligament to a bone within a new bone tunnel adjacent to an old bone tunnel, with the new bone tunnel and the old bone tunnel in overlapping configuration with one another, the new bone tunnel forming a mouth and having at least one ligament extending through the mouth, the at least one ligament and the mouth of the new bone tunnel forming an interstitial space, said system comprising:

providing a ligament shim for insertion into the new bone tunnel, said ligament shim comprising:

a body having a first end and a second end, a longitudinal axis from said first end to said second end, and at least two walls extending substantially parallel to said longitudinal axis;

a portion of said body from said first end and said second end defining a cross-sectional area in a plane substantially perpendicular to said longitudinal axis, said cross-sectional area of said portion of said body being slightly oversized relative to a portion of the interstitial space between the wall of the new bone tunnel and the at least one ligament in

a plane substantially perpendicular to said longitudinal axis; and

positioning said shim in the interstitial space of the new bone tunnel between the at least one ligament and the old bone tunnel so as to close off the new bone tunnel from the old bone tunnel, and so as to keep the at least one ligament from falling into the old bone tunnel.

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10. (New Claim) A system for securing at least one ligament to a bone within a bone tunnel, the bone tunnel forming a mouth and having at least one ligament extending through the mouth, the at least one ligament and the mouth forming an interstitial space, said system comprising:

suspension means for suspending the at least one ligament within the bone tunnel; and

a shim being separate from said suspension means and configured to gently urge the at least one ligament toward a wall of the bone tunnel.

11. (New Claim) A system for securing at least one ligament to a bone within a bone tunnel according to claim 10, wherein said suspension means are positioned in the bone tunnel distal to said shim.

12. (New Claim) A system for securing at least one ligament to a bone within a bone tunnel according to claim 11, wherein said suspension means and said shim do not contact one another.

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13. (New Claim) A system according to claim 10, wherein said suspension means comprise at least one of a group consisting of an interference screw used to aggressively wedge the at least one ligament against the wall of the bone tunnel; a suture used to suspend the at least one ligament in the bone tunnel; a cross-pin used to suspend the at least one ligament in the bone tunnel; a screw and washer arrangement used to affix the at least one ligament to the outside of the bone after passing the at least one ligament completely through the bone tunnel; and a staple used to affix the at least one ligament to the outside of the bone after

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passing the at least one ligament completely through  
the bone tunnel.

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